

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-12. (Canceled)

13. (New) A device for shared management of a resource between several users, comprising:

a memory for storing virtual deadlines  $E_i$  and share parameters  $D_i$  associated with respective user-identifiers  $u_i$ , each of the user-identifiers  $u_i$  representing one of the users, the memory further storing values of increments  $P(c)$ ;

a plurality of classes, each class being associated with a respective one of the values of increments  $P(c)$  stored in the memory;

a plurality of first-in-first-out (FIFO) queues for storing the user-identifiers  $u_i$  of the users, each FIFO being assigned to one of the plurality of classes and being associated with one of the values of increments  $P(c)$  of one of the plurality of classes; and

a processing unit coupled to the memory and the FIFO queues, wherein the processing unit is configured to:

select a user-identifier  $u_s$  of one of the FIFO queues, the selected user-identifier  $u_s$  being at the head of the one of the FIFO queues and having the least advanced virtual deadline  $E_s$  among the stored virtual deadlines;

allocate to the user represented by the selected user-identifier  $u_s$  a service slice  $Q_s$  of the resource, the service slice  $Q_s$  being derived from the values of the share parameters  $D_s$  associated with the selected user-identifier  $u_s$  and of the increment  $P(c)$  of the FIFO in which the selected-identifier  $u_s$  is stored; and

increase the virtual deadline  $E_s$  associated with the selected user-identifier  $u_s$  according to a value of increment  $dE_s$ .

14. (New) The device according to claim 13, wherein the service slice  $Q_s$  allocated to the user represented by the selected user-identifier  $u_s$  results from a formula  $Q_s = P(c) \times D_s$ .

15. (New) The device according to one of the claims 13 and 14, wherein the processing unit is further configured to:

store in the memory a virtual point in time  $V$  managed by the device;

increase the virtual point in time  $V$  by an increment value  $pV$  for advancing the virtual point in time  $V$ ; and

allow allocation of the service slice  $Q_s$  to the user represented by the selected user-identifier  $u_s$  as long as the virtual deadline  $E_s$  associated to the selected user-identifier  $u_s$  is less advanced than the virtual point in time  $V$ .

16. (New) The device according to claim 15, wherein the virtual point in time  $V$  is increased by the increment value  $pV$  for each allocation to the user represented by the selected user-identifier  $u_s$  of the service slice  $Q_s$  of the resource, the increment value  $pV$  being a quotient of the increment  $P(c)$  of the FIFO queue in which the selected-identifier  $u_s$  is stored and a sum  $D$  of the share parameters  $D_i$ .

17. (New) The device according to claim 13, wherein the memory comprises:  
a FIFO queues area storing, for each of the FIFO queues, one of the values of the increments  $P(c)$  and the user-identifier  $u_s$  of the user at the head of the FIFO queue; and  
a users area storing, for each user, the user-identifiers  $u_i$ , the share parameters  $D_i$ , and an end of queue item  $nd(u)$ .

18. (New) The device according to claim 17, wherein FIFO queues are cyclic queues defining circular lists, and wherein each of the FIFO queues associates a single virtual

deadline  $F(c)$  to the user-identifiers  $u_i$  stored in the FIFO queue, said single virtual deadline  $F(c)$  being stored in the FIFO queues area.

19. (New) The device according to claim 18, wherein the processing unit is further configured to:

allocate to the user represented by the selected user-identifier  $u_s$  the service slice  $Q_s$  of the resource, the selected user-identifier  $u_s$  being in the list having the least advanced virtual deadline  $F(c)$ ; and

increase the virtual deadline  $F(c)$  of said list after allocating a service slice  $Q_i$  to a user at the end of said list.

20. (New) The device according to claim 13, wherein users requesting a service slice of the resource are discriminated from users not requesting a service slice of the resource.

21. (New) The device according to claim 20, wherein user-identifiers of newly requesting users and user-identifiers of formerly requesting users are stored in distinct FIFO queues.

22. (New) The device according to claim 21, wherein a virtual deadline  $F(u)$  is assigned to the user-identifiers  $u_i$  of a newly requesting user, the virtual deadline  $F(u)$  being dependent on the virtual point in time  $V$  managed by the device.

23. (New) The device according to one of the claims 20 to 22, further configured to eliminate non-requesting users appearing at the head of one of the FIFO queues.

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24. (New) The device according to 23, wherein a non-requesting user is eliminated when said non-requesting user is allowed to use a resource and possesses the least advanced virtual deadline  $F(u)$  among the stored virtual deadlines.